12.5
12.6
12.7
Inequality Word Problems

2/7/18

Jan 26-11:52 AM

Edgar's August profit of $137 was at least $20 higher than his July profit. What was July's profit?

Let p represent the profit increase from July to August.

August profit was at least $20 higher than July's profit.

$137 ≥ 20 + p

$137 ≥ 20 + p$

$-20 \quad -20$ *Subtract 20 from both sides.*

$117 ≥ p$

$p ≤ 117$ *Rewrite the inequality.*

July's profit was at most $117.

Jan 26-11:56 AM

Rylan's March profit of $172 was at least $12 less than his February profit. What was February's profit?

variable x = Feb. profit Solution Set $x ≤ 184$

Inequality _____ Answer Phrase at most $184

$x - 12 ≤ 172$

$+12 \quad +12$

$x ≤ 184$

Jan 26-11:56 AM

There are at least 17 more bus riders than walkers in a class. If there are 7 walkers, how many bus riders are there?

variable x = # of bus riders Solution Set $x ≥ 24$

Inequality _____ Answer Phrase at least 24 riders

$x ≥ 17 + 7$

$x ≥ 24$

Jan 26-11:57 AM

It cost Josh $85 to make candles for the craft fair. How many candles must he sell at $4.00 each to make a profit?

variable x = # of candles Solution Set $x > 21.25$

Inequality _____ Answer Phrase at least 22 candles

$\frac{4x}{4} > \frac{85}{4}$

$x > 21.25$

Jan 26-11:57 AM

5. It cost a candle company $51 to make a dozen candles. How many candles must it sell at $7 apiece to make a profit?

variable x = # of candles Solution Set $x > 7.28...$

Inequality _____ Answer Phrase more than 7 (at least 8)

$\frac{7x}{7} > \frac{51}{7}$

$x > 7.28...$

Jan 26-11:59 AM

Brice has $30 to take his brother and his friends to the movies. If each ticket costs $4.00, and he must buy tickets for himself and his brother, what is the greatest number of friends he can invite?

variable #of friends Solution Set $x \leq 5.5$

Inequality _____ Answer Phrase at most 5 friends

$4x + 8 \leq 30$

$-8 \quad -8$

$\frac{4x}{4} \leq \frac{22}{4}$

$x \leq 5.5$

Jan 26-12:00 PM

A cyclist has $7.00. At the first stop on the tour, energy bars are $1.15 each, and a sports drink is $1.75. What is the greatest number of energy bars the cyclist can buy if he buys one sports drink?

variable x #of bars Solution Set _____

Inequality _____ Answer Phrase at most 4 bars

$1.75 + 1.15x \leq 7$

$-1.75 \quad -1.75$

$\frac{1.15x}{1.15} \leq \frac{5.25}{1.15}$

$x \leq 4.56\ldots$

Jan 26-12:00 PM

Marc wants to buy a set of at least 6 antique chairs for his dining room. He has decided to spend no more than $390. What is the most he can spend per chair?

variable x = cost/chair Solution Set $x \leq 65$

Inequality _____ Answer Phrase at most $65

$\frac{6x}{6} \leq \frac{390}{6}$

$x \leq 65$

Jan 26-12:04 PM

Lori has $54. She wants to buy a sweater that costs $28 and two CDs. What is the most she can spend on each CD assuming she buys two CDs at the same price?

variable x = cost/CD Solution Set $x \leq 13$

Inequality _____ Answer Phrase at most $13

$2x + 28 \leq 54$

$-28 \quad -28$

$\frac{2x}{2} \leq \frac{26}{2}$

$x \leq 13$

Jan 26-12:01 PM

Members at a yoga school pay $10 per class plus a one-time $100 membership fee. Non-members pay $15 per class. How many classes would a member have to take to save money compared to taking classes as a non-member?

variable x = #classes Solution Set $x \leq 20$

Inequality _____ Answer Phrase at most 20 classes

$10x + 100 \geq 15x$

$-10x \quad -10x$

$\frac{100}{5} \geq \frac{5x}{5}$

$x \leq 20 \quad 20 \geq x$

Jan 26-12:02 PM